

REMARKS

Claims 1-4, 6-10, 12-16, 18-22, and 24 are pending and stand rejected. Claims 1, 7, 13, and 19 are amended by way of this Amendment to clarify the subject of the invention. All pending claims are believed to be allowable over the references cited by the Examiner as discussed below. Accordingly, a Notice of Allowance for the present application is respectfully requested.

Rejection Under 35 U.S.C. §102(e)

Claims 1-7, 13, 19, and 24 stand rejected under 35 U.S.C. §102(e) as being anticipated by May et al. Applicants respectfully disagree.

Each of independent claims 1, 7, 13 and 19 is amended to clarify that the modulation of the radiation by the spatial light modulator is in response to computer control and controls the pattern of the electron beams emitted by the photocathode.

May discloses one embodiment (FIG. 1) in which a microlens array 1 focuses light onto the photoemission layer 5 through the cells of the liquid crystal layer 2. The photoemission layer 5 in turn generates electron beams, the directions of which depend on and are controlled by the voltages of the photoemission layer 5. In other words, only the photoemission layer 5 and not the liquid crystal layer 2 or the microlens array 1 is responsible for controlling the direction of the electron beams emitted by the photoemission layer. This embodiment does not anticipate the claims as it fails to provide a spatial light modulator (SLM) where the modulation controls the pattern of electron beams emitted. Rather, it is the voltages of the photoemission layer 5 that controls the pattern of electron beams emitted.

Similarly, May discloses in another embodiment (FIGS. 6 and 7) an SLM 40 that modulates light with a stored image and directs the modulated light onto a photoemissive layer 41 which produces an electron image (col. 6, lines 16-19). This electron image is in the form of a single spatially modulated electron beam. (See, col. 2, lines 24-25, "the lithographic image can be translated directly from the SLM to a demagnified electron image in the form of a spatially modulated electron beam"). The single electron beam is also clearly shown in both FIGS. 6 and 7. In FIG. 6, the single spatially modulated electron beam is inverted with respect to the image stored in the SLM. In FIG. 7, the single spatially modulated electron beam is demagnified and the demagnified electron image strikes the surface of the sample 50.

Spatially modulating the electron beam to produce an electron image obviates the need to generate the multiple electron beams of FIG. 1. And even if the single spatially modulated electron beam were incorporated into the embodiment of FIG. 1, it would nonetheless be the voltages of the photoemission layer 5 that controls the pattern of electron beams emitted.

In view of the foregoing, withdrawal of the rejection of independent claims 1 and 13 as well as claims dependent variously therefrom under 35 U.S.C. §102(e) is respectfully requested.

Rejections Under 35 U.S.C. §103

Claims 2-4, 6, 8-10, 12, 14-16, 18, 20-22, and 24, dependent variously from independent claims 1, 7, 13, and 19, stand rejected under 35 U.S.C. §103(a) as being unpatentable over May in view of various secondary references. In particular, claims 4, 10, 16, and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over May in view of Engstrom. Claims 2-3, 8-9, 14-15, and 20-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over May in view of Brandes. In addition, claims 6, 12, 18, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over May in view of Clark.

However, dependent claims 2-4, 6, 8-10, 12, 14-16, 18, 20-22, and 24 are allowable at least because the independent claims 1, 7, 13, and 19 from which they variously depend are allowable as discussed above.

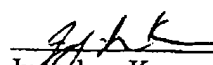
In view of the foregoing, withdrawal of the rejection of dependent claims 2-4, 6, 8-10, 12, 14-16, 18, 20-22, and 24 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-1217 (Order No. AMATP010).

Respectfully submitted,


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